UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,449	12/17/2001	E. Diane Chang	A-71214/RMA	6208

50086 7590 01/08/2007
LAW OFFICE OF DAVID H. JUDSON
15950 DALLAS PARKWAY
SUITE 225
DALLAS, TX 75248

EXAMINER	
BOYCE, ANDRE D	
ART UNIT	PAPER NUMBER
3623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/024,449	CHANG ET AL.	
	Examiner	Art Unit	
	Andre Boyce	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60 and 64-66* is/are pending in the application.

4a) Of the above claim(s) *64-66* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Final office action in response to Applicant's amendment filed October 16, 2006. Claims 1, 16, 28, 31, 35, 38-44, 48, 49, 52 and 58 have been amended. Claims 61-63 have been canceled. Claims 64-66 have been added. Claims 1-60 and 64-66 are pending.

2. The previously pending rejections to claims 1-63 under 35 U.S.C. 112, second paragraph, have been withdrawn.

3. Applicant's arguments filed October 16, 2006 have been fully considered but they are not persuasive.

Election/Restrictions

4. Newly submitted claims 64-66 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 64-66 are directed towards a method of identifying a relative performance of a set of creatives during a multi-stage message campaign, wherein a given creative has associated therewith two or more attributes, and each attribute has two or more values, including defining a set of multiattribute data structures and assigning the creatives to the set such that each creative is assigned to one and only one multiattribute data structure. Whereas, original claims 1-60 are not concerned with

defining a set of multiattribute data structures and assigning the creatives to the set such that each creative is assigned to one and only one multiattribute data structure. In contrast, independent claims 1 and 58 are directed towards multiattribute analysis and optimization for providing automated measurements of the importance of attributes and attribute values of message alternatives, including obtaining historical information including historical performance data for message performance for at least one previous stage of said multi-stage message campaign, generating a multiattribute system that describes said message alternatives in terms of said attributes and said attribute values, wherein an attribute is an element of a message alternative and an attribute value is a particular instantiation of the attribute, and based on the historical information determining the importance of said attributes and said attribute values to the performance of said message alternatives.

5. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 64-66 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 7, 9, 10, 13, 14, 16-18, 45, 46, 48-50 and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Merriman et al (US 2002/0099600).

As per claim 1, Merriman et al disclose a method of multiattribute analysis and optimization for providing automated measurements of the importance of attributes and attribute values of message alternatives (i.e., predictive model 10 to determine an advertisement 12, ¶ 0031) and for, in an automated manner, improving the stage-to-stage performance of said message alternatives in a multi-stage message campaign in an interactive measurable medium (i.e., ranked order of advertisements 12 user is most likely to respond, ¶ 0031); said method including: obtaining historical information including historical performance data for message performance for at least one previous stage of said multi-stage message campaign (i.e., database of historical advertisements 20, ¶ 0031); generating a multiattribute system that describes said message alternatives in terms of said attributes and said attribute values (i.e., context information, empirically measured data and initial suppositions about each ad are used to assign weights for different ads, ¶¶ 0038-39), wherein an attribute is an element of a message alternative and an attribute value is a particular instantiation of the attribute (i.e., factors of the advertisement, including season of ad, time of day and frequency of display, which are all assigned different weights, ¶ 0039); based on the historical information (i.e., predictive model 10 processes database of historical results, ¶ 0031) determining the importance of said attributes and said attribute values to the performance of said message alternatives (i.e., considering all factors, the expected return for the offer is calculated, ¶ 0042); based

on the determination of the importance of the attributes and the attribute values (i.e., factors of the advertisement, including season of ad; time of day and frequency of display, which are all assigned different weights, ¶ 0039) optimizing campaign performance through allocation of message alternatives to visitors during said multi-attribute message campaign (i.e., predictive model 10 processes the inputs and outputs a direct ad or a ranked order of direct ads that the user is most likely to respond, ¶ 0031); and determining a next allocation for each new visitor for a next stage of the campaign (i.e., feedback information is used to further refine future predictions about optimal ads to deliver to future users, ¶ 0033).

As per claim 7, Merriman et al disclose historical information selected from the set consisting of a visitor identifier, a message alternative identifier for the message alternative shown to said visitor, a type of action or types of actions taken by each said visitor, and a payoff for each of the actions taken by said visitors (i.e., payment rate for the offer, ¶ 0042).

As per claims 9 and 10, Merriman et al disclose historical information further includes additional information selected from the set consisting of a message type (i.e., offer type including direct ads and surveys, ¶ 0041), a message type and a corresponding alternative clicked on by a visitor, a web site and a section of the web site where the visitor was presented with and saw or had an opportunity to see a banner ad, a time of the visitors visit, a visitor demographic information, a visitor psychographic information, a visitor demographic profile, a visitor psychographic profile, and combinations thereof.

As per claim 13, Merriman et al disclose said message alternative is selected from a group of message alternatives consisting of an email, an ad (¶ 0040), a banner ad, a banner, a splash page, a home page, a jump page, a landing page, media programming, media content, a political campaign message, a survey, a poll, a news headline, a headline, a ballot measure, a ballot initiative, one or more sports scores, one or more sports scores for a local, regional, collegiate, or amateur sports team or teams, and combinations thereof.

As per claim 14, Merriman et al disclose each exposure of a message alternative to a visitor results in a payoff result (i.e., revenue is calculated as the payout, ¶ 0034), a performance of said message alternative for a visitor segment being based at least in part on the expected value of the payoff results for the visitors for that visitor segment (i.e., predictive model bases its ad selection on various factors, including payment rate of offer, ¶ 0042), said payoff result being a function of a measurement including at least one measurement selected from the set of measurements consisting of; a number of actions (i.e., conversion, including a sale or a click through, ¶ 0034), a number of signups, a number of purchases, a binary result, a value of purchases, a revenue amount, a sales amount, a profit amount, a continuous function of a continuous variable, a continuous function of a discontinuous variable, a continuous function of a binary variable, a discrete function of a continuous variable, a discrete function of a discontinuous variable, a discrete function of a binary variable, and combinations thereof.

As per claim 16, Merriman et al disclose generating at least one report on the optimal value for each attribute (i.e., transactions at a remote direct advertiser site are reported reporting, ¶ 0084); generating new message alternatives with the values of each attribute indicated by a multiattribute analysis that uses prior expectations and payoff criteria to arrive at message alternative evaluation (i.e., predictive model bases its ad selection on various factors, including payment rate of offer, ¶ 0042); adding said new message alternatives to the set of available messages to be optimized (i.e., set of offers to be reviewed, ¶ 0042); and choosing the best message alternative from among the choices presented and proactively creating message alternatives that are expected to perform well within some confidence level (i.e., best offer selected based upon expected return, including probability of conversion, ¶ 0042).

As per claim 17, Merriman et al disclose multiattribute system is of standard form (i.e., predictive model bases its ad selection based on multiple attributes, that may have various values, ¶ 0042).

As per claim 18, Merriman et al disclose multiattribute system is reduced to standard form (i.e., attributes in the predictive model may be changed and/or supplemented with additional criteria 18, ¶ 0031).

As per claim 45, Merriman et al disclose reports on the optimal value for each attribute are provided only if it is determined that said multiattribute system supports said measurement of the relative importance to said message alternative performance of said attributes and said attribute values (i.e., report provides values

of transactions at the website, only including those supported by the predictive model, ¶ 0084).

As per claim 46, Merriman et al disclose said multiattribute system is reduced to standard form to determine if said multiattribute system supports said measurement of the relative importance to said message alternative performance of said attributes and said attribute values (i.e., attributes in the predictive model may be changed and/or supplemented with additional criteria 18, ¶ 0031).

As per claim 48, Merriman et al disclose reports on the optimal value for each attribute are provided upon a given occurrence (i.e., report in the form of an email message is generated based on a successful action such as a sale, ¶ 0044).

As per claim 49, Merriman et al disclose an acceptance/rejection test is employed upon a given occurrence (i.e., monitoring and updating the predictive model based on user's response, ¶¶ 0015-16).

As per claim 50, Merriman et al disclose reports on said relative importance to said message alternative performance of said attributes and said attribute values are provided to the marketing manager or other interested party (i.e., report in the form of an email message is generated and sent to the predictive model server, ¶ 0044).

Claim 58 is rejected based upon the rejection of claim 1, since it is the computer program product claims corresponding to the method claims.

Claim Rejections - 35 USC § 103

8. Claims 2-6, 8, 11, 12, 15, 19-26, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriman et al (US 2002/0099600), in view of Tamayo et al (USPN 6,836,773).

As per claim 2, Merriman et al does not disclose processing said historical performance data to identify erroneous or possibly erroneous or unusual historical performance data. Tamayo et al discloses pre-processing web data, including data cleaning in order to remove redundant or irrelevant information (column 16, lines 24-31). Both Merriman et al and Tamayo et al are concerned with internet based data collection, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include processing said historical performance data to identify erroneous data in Merriman et al, as seen in Tamayo et al, in order to facilitate extracting useful information from files (as disclosed by Tamayo et al, column 16, lines 31-32), making the Merriman et al system more effective.

As per claim 3, Merriman et al does not disclose cleaning said historical performance data to correct said identified erroneous or possible erroneous or unusual historical performance data. Tamayo et al discloses pre-processing web data, including data cleaning in order to remove redundant or irrelevant information (column 16, lines 24-31). Both Merriman et al and Tamayo et al are concerned with internet based data collection, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include cleaning said historical performance data in Merriman et al, as seen in Tamayo et al, in order to

facilitate extracting useful information from files (as disclosed by Tamayo et al, column 16, lines 31-32), making the Merriman et al system more effective.

As per claims 4 and 5, Merriman et al disclose discounting at least a portion of said historical performance data from said at least one previous stage to grant more weight to more recent historical performance data than to less recent historical performance data. Tamayo et al disclose data updated with data collected at subsequent sessions, thereby increasing the accuracy of predictions (column 10, lines 39-41). Both Merriman et al and Tamayo et al are concerned with internet based data collection, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include granting more weight to more recent historical performance data than to less recent historical performance data in Merriman et al, as seen in Tamayo et al, in order to increase the accuracy of the predictions, as disclosed in Tamayo et al (column 10, lines 40-41), thus making the Merriman et al system more effective.

As per claim 6, Merriman et al disclose historical information selected from the set consisting of a visitor identifier, a message alternative identifier for the message alternative shown to said visitor, a type of action or types of actions taken by each said visitor, and a payoff for each of the actions taken by said visitors (i.e., payment rate for the offer, ¶ 0042).

As per claim 8, Merriman et al disclose historical information further includes additional information selected from the set consisting of a message type (i.e., offer type including direct ads and surveys, ¶ 0041), a message type and a corresponding

alternative clicked on by a visitor, a web site and a section of the web site where the visitor was presented with and saw or had an opportunity to see a banner ad, a time of the visitors visit, a visitor demographic information, a visitor psychographic information, a visitor demographic profile, a visitor psychographic profile, and combinations thereof.

As per claim 11, Merriman et al disclose said historical information further includes: information selected from the set consisting of a visitor identifier, a message alternative identifier for the message alternative shown to said visitor, a type of action or actions taken by said visitor, and a payoff for each of the actions taken by said visitors, a message type (i.e., offer type including direct ads and surveys, ¶ 0041), a message type and a corresponding alternative clicked on by a visitor, a web site and a section where the visitor was presented and saw a banner ad, a time of the visitors visit, a visitor demographic information, a visitor psychographic information, a visitor demographic profile, a visitor psychographic profile, and combinations thereof. Merriman et al does not disclose processing said historical data to identify and correct any erroneous data; discounting at least a portion of said performance data from said at least one previous stage to grant more weight to more recent performance data than to less recent performance data. Tamayo et al discloses pre-processing web data, including data cleaning in order to remove redundant or irrelevant information (column 16, lines 24-31). In addition, Tamayo et al disclose data updated with data collected at subsequent sessions, thereby increasing the accuracy of predictions (column 10, lines 39-41). Both Merriman et al and Tamayo et

al are concerned with internet based data collection, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include processing said historical performance data to identify erroneous data and granting more weight to more recent historical performance data than to less recent historical performance data in Merriman et al, as seen in Tamayo et al, in order to facilitate extracting useful information from files (as disclosed by Tamayo et al, column 16, lines 31-32), making the Merriman et al system more effective.

As per claim 12, Merriman et al disclose said message alternative is selected from a group of message alternatives consisting of an email, an ad (¶ 0040), a banner ad, a banner, a splash page, a home page, a jump page, a landing page, media programming, media content, a political campaign message, a survey, a poll, a news headline, a headline, a ballot measure, a ballot initiative, one or more sports scores, one or more sports scores for a local, regional, collegiate, or amateur sports team or teams, and combinations thereof.

As per claim 15, Merriman et al disclose each exposure of a message alternative to a visitor results in a payoff result (i.e., revenue is calculated as the payout, ¶ 0034), a performance of said message alternative for a visitor segment being based at least in part on the expected value of the payoff results for the visitors for that visitor segment (i.e., predictive model bases its ad selection on various factors, including payment rate of offer, ¶ 0042), said payoff result being a function of a measurement including at least one measurement selected from the set of measurements consisting of; a number of actions (i.e., conversion, including

a sale or a click through, ¶ 0034), a number of signups, a number of purchases, a binary result, a value of purchases, a revenue amount, a sales amount, a profit amount, a continuous function of a continuous variable, a continuous function of a discontinuous variable, a continuous function of a binary variable, a discrete function of a continuous variable, a discrete function of a discontinuous variable, a discrete function of a binary variable, and combinations thereof.

As per claims 19 and 20, Merriman et al does not disclose processing includes discounting said performance data; and said discounting being achieved using at least one of discounting scheme selected from the set of discounting schemes consisting of: a geometric discounting scheme, a linear weighting discounting scheme, a non-linear weighting discounting scheme, and combinations thereof. Tamayo et al disclose data updated with data collected at subsequent sessions, thereby increasing the accuracy of predictions (column 10, lines 39-41). Both Merriman et al and Tamayo et al are concerned with internet based data collection, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include granting more weight to more recent historical performance data than to less recent historical performance data in Merriman et al, as seen in Tamayo et al, in order to increase the accuracy of the predictions, as disclosed in Tamayo et al (column 10, lines 40-41), thus making the Merriman et al system more effective.

As per claim 21, Merriman et al disclose estimating the distribution of the expected payoff of future performance of said message alternatives (i.e., best offer selected based upon expected return, including probability of conversion, ¶ 0042).

As per claim 22, Merriman et al disclose said estimate is obtained under the assumption that the underlying performance model implied by said multiattribute system holds (i.e., expected return is based on performance of predictive model, ¶ 0042).

As per claim 23, Merriman et al disclose said estimate is obtained by first estimating the distribution of expected payoff of future performance of said message alternatives assuming said underlying performance model implied by said multiattribute system holds, then updating the second said estimate to remove said assumption (i.e., predictive model processes inputs in order to determine expected return, wherein suggestion is optionally filtered by additional criteria, ¶ 0031).

As per claim 24, Merriman et al disclose said estimate is employed for the purpose of allocating future campaign impressions amongst said message alternatives to optimize future expected campaign performance (i.e., dynamic replacement of poorly performing ads based upon expected return, ¶¶ 0018 and 0024).

As per claim 25, Merriman et al disclose said allocation method comprises performing a pairwise comparison procedure among said plurality of message alternatives (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042).

As per claim 26, Merriman et al disclose computing an expected value of a payoff distribution of each message alternative (i.e., calculation of the expected return, ¶ 0042) and an error in said payoff distribution expected value (i.e., calculating performance after a statistically significant sampling period, wherein the statistically significant period includes an error (¶ 0017); and comparing in pairwise manner the expected value based statistic of a selected message alternative with the same expected value based statistic for each other of the message alternatives (i.e., comparing expected return to previously rated offers, ¶ 0042).

Claims 59-60 are rejected based upon the rejections of claims 11 and 12, respectively, since they are the computer program product claims corresponding to the method claims.

9. Claims 27-34 and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriman et al (US 2002/0099600), in view of Tamayo et al (USPN 6,836,773), in further view of Dunning et al (US 2003/0229537).

As per claim 27, Merriman et al disclose selecting a first message alternative and a second message alternative from among said plurality of message alternatives (i.e., current offer is compared to all others in order to determine highest expected return, ¶ 0042). Neither Merriman et al nor Tamayo et al disclose computing a quotient determined as difference between the estimate of the said expected value divided by a standard error in the difference between the estimate of the expected value for each of said first and second message alternatives; and

determining if said difference is within a predetermined magnitude relationship of, including greater than, a threshold cutoff value c1, and: (i) if said difference is within said predetermined magnitude relationship of said threshold cutoff value, then identifying the second selected message alternative as a member of a non-contending message class. Dunning et al disclose computing a quotient via a chi-squared test, wherein the number of occurrences of an event is determined via expected value, wherein the significance of the difference is determined and un-expected co-occurrence defined (¶¶ 0034-35). Further, determining if said difference is within a predetermined magnitude relationship of, including greater than, a threshold cutoff value c1 is old and well known in the art to derive threshold values in statistical analysis of expected value. Merriman et al, Tamayo et al, and Dunning et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include computing a quotient determined as difference between the estimate of the said expected value divided by a standard error in the difference between the estimate of the expected value for each of said first and second message alternatives in Merriman et al, as seen in Dunning et al, as an effective means in determining which advertisements should be presented, thus making Merriman et al a more robust and flexible system.

As per claim 28, Merriman et al disclose each message alternative is given content, repeating said selecting, said computing a quotient, said computing a

difference, and said determining for other all other pairs of said message alternatives on a pairwise basis so that when all possible pairwise comparisons have been made each message alternative will have been sorted into one contender and said non-contender classes (i.e., comparison of all offers, wherein the best offer is sent and shown to the user, as a contender, ¶ 0042).

As per claim 29, Merriman et al disclose performing said repeating for all other pairs of message alternatives on a pairwise basis for each optimization (i.e., comparison of all offers, wherein the best offer is sent and shown to the user, as a contender, ¶ 0042).

As per claim 30, Merriman et al disclose initially uniformly allocating said message alternatives prior to performing a first optimization (i.e., selection of optimally performing advertisements from a pool, ¶ 0013).

As per claim 31, Merriman et al disclose the message alternatives are sorted into a contender class and a noncontender class (i.e., selecting ads that are estimated to perform optimally from a pool of ads versus those that are not estimated to perform optimally, ¶¶ 0012-0013), and for at least one identified stage in a messaging campaign all visitors are allocated equally among message alternatives belonging to said contender class, and no visitors are allocated to message alternatives belonging to said noncontender class (i.e., those that do perform optimally are selected as direct ads, thus exposed to some visitors, wherein those not chosen are not shown to any visitors, ¶ 0013)

As per claim 32, Merriman et al disclose said at least one identified stage comprises an initial stage (i.e., initial display of ad, based upon the number of conversions, ¶ 0034 and figure 2).

As per claim 33, Merriman et al disclose said at least one identified stage comprises a plurality of stages (i.e., plurality of conversions, ¶ 0034 and figure 2).

As per claim 34, Merriman et al disclose said at least one identified stage comprises all stages (i.e., all conversions up unit the maximum number of conversions is reached, ¶ 0034 and figure 2).

As per claim 41, Merriman et al disclose said algorithm comprises a Pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al, Tamayo et al, nor Dunning et al disclose the cutoff c1 is in the range substantially between 0-1.0. However, it is well known in the art to derive values between 0-1.0 in statistical analysis of expected value, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include cutoff c1 is in the range substantially between 0-1.0 in Merriman et al, as an effective means of determining a threshold value based upon expected value analysis in order to make the system more robust.

As per claim 42, Merriman et al disclose said algorithm comprises a Pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al, Tamayo et al, nor Dunning et al disclose the cutoff c1 is substantially 0.5. However, it is well known in

the art to derive values substantially 0.5 in statistical analysis of expected value, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include cutoff c1 is substantially 0.5 in Merriman et al, as an effective means of determining a threshold value based upon expected value analysis in order to make the system more robust.

As per claim 43, Merriman et al disclose said algorithm comprises a Pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al, Tamayo et al, nor Dunning et al disclose the cutoff c1 is greater than or equal to 1. However, it is well known in the art to derive values greater than or equal to 1 in statistical analysis of expected value, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include cutoff c1 is greater than or equal to 1 in Merriman et al, as an effective means of determining a threshold value based upon expected value analysis in order to make the system more robust.

As per claim 44, Merriman et al disclose said algorithm comprises a Pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al, Tamayo et al, nor Dunning et al disclose the cutoff c1 is greater than 1. However, it is well known in the art to derive values greater than 1 in statistical analysis of expected value, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include cutoff c1 is greater than 1 in Merriman et al,

as an effective means of determining a threshold value based upon expected value analysis in order to make the system more robust.

10. Claims 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriman et al (US 2002/0099600), in view of Tamayo et al (USPN 6,836,773), in further view of Marsh et al (USPN 5,848,397).

As per claim 35, Merriman et al et al disclose said allocation algorithm comprises a pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al nor Tamayo et al disclose message alternatives are sorted into more than two classes. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including high, medium, low, and no priority (column 13, lines 26-29). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include message alternatives are sorted into more than two classes in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

As per claim 36, neither Merriman et al nor Tamayo et al disclose said messages belonging to each said class are assigned different numbers of visitors. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including

high, medium, low, and no priority (column 13, lines 26-29), wherein the highest priority queue is selected as the current queue, displaying all the ads in the highest priority queue first then moving to subsequent queues in priority order (column 9, lines 1-27). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include said messages belonging to each said class are assigned different numbers of visitors in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

As per claim 37, neither Merriman et al nor Tamayo et al disclose said messages belonging to each said class are assigned substantially the same numbers of visitors. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including high, medium, low, and no priority (column 13, lines 26-29), wherein the highest priority queue is selected as the current queue, displaying all the ads in the highest priority queue first then moving to subsequent queues in priority order (column 9, lines 1-27). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include said messages belonging to each said class are assigned substantially the same numbers of

visitors in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

As per claim 38, Merriman et al disclose said allocation algorithm comprises a pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al nor Tamayo et al disclose message alternatives are sorted into more than two classes and the allocation among contenders is not equal. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including high, medium, low, and no priority (column 13, lines 26-29), wherein the highest priority queue is selected as the current queue, displaying all the ads in the highest priority queue first then moving to subsequent queues in priority order (column 9, lines 1-27). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include message alternatives are sorted into more than two classes and the allocation among contenders is not equal in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

As per claim 39, Merriman et al disclose said allocation algorithm comprises a pairwise comparison (i.e., if the expected return is higher than previously rated

offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al nor Tamayo et al disclose message alternatives are sorted into more than two classes and the allocation among non-contenders is not equal. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including high, medium, low, and no priority (column 13, lines 26-29), wherein the highest priority queue is selected as the current queue, displaying all the ads in the highest priority queue first then moving to subsequent queues in priority order (column 9, lines 1-27). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include message alternatives are sorted into more than two classes and the allocation among non-contenders is not equal in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

As per claim 40, Merriman et al disclose said allocation algorithm comprises a pairwise comparison (i.e., if the expected return is higher than previously rated offers, the offer is marked as the best offer, ¶ 0042). Neither Merriman et al nor Tamayo et al disclose message alternatives are sorted into more than two classes and the allocation among contenders is not equal and the allocation among non-contenders is not equal. Marsh et al discloses ads divided into a plurality of prioritized advertisement queues, including high, medium, low, and no priority

(column 13, lines 26-29), wherein the highest priority queue is selected as the current queue, displaying all the ads in the highest priority queue first then moving to subsequent queues in priority order (column 9, lines 1-27). Merriman et al, Tamayo et al, and Marsh et al are concerned with generating customized and/or personalized information to a customer, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include message alternatives are sorted into more than two classes and the allocation among contenders is not equal and the allocation among non-contenders is not equal in Merriman et al, as seen in Marsh et al, so that advertisements deemed to be more important are presented to a user first (see Marsh et al, column 3, lines 62-65), thus making the Merriman et al system more robust.

11. Claims 47, 51, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriman et al (US 2002/0099600), in view of Dunning et al (US 2003/0229537).

As per claims 47 and 51, Merriman et al does not disclose determination of said relative importance to said message alternative performance of said attributes and said attribute values includes determination of confidence intervals around said relative importance. Dunning et al disclose assuming a normal distribution, the difference between observed values and the expected value can be determined and squared, wherein the significance of the difference (i.e., confidence intervals) is then determined (¶ 0035). Both Merriman et al and Dunning et al are concerned

with recommendations to improve the interest of the user, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include determination of confidence intervals around said relative importance in Merriman et al, as seen in Dunning et al, as an effective means of determining confidence intervals around said relative importance in order to make the Merriman et al system more robust.

As per claim 52, Merriman et al disclose performance measurement represents the click-through rates of the message alternatives (i.e., conversion, ¶ 0034). Merriman et al does not disclose said multiattribute function is the logodds function, and said reported relative importance to said message alternative performance of one of said attribute values is computed as 100*(exp{u}-1), where said u represents a parameter estimate of a multiattribute parameter associated with said attribute value, and said reported relative importance to said message alternative performance of one of said attributes is computed as 100x(exp(u)-1), where said u represents the largest parameter estimate of a multiattribute parameter associated with said attribute values of said attribute. Dunning et al disclose computing a quotient via a chi-squared test, wherein the number of occurrences of an event is determined via expected value, wherein the significance of the difference is determined and un-expected co-occurrence defined (¶¶ 0034-35). Further, Dunning et al disclose assuming a normal distribution, the difference between observed values and the expected value can be determined and squared, wherein the significance of the difference (i.e., confidence intervals) is then determined (¶

0035). Both Merriman et al and Dunning et al are concerned with recommendations to improve the interest of the user, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include determination of confidence intervals around said relative importance in Merriman et al, as seen in Dunning et al, as an effective means of determining confidence intervals around said relative importance in order to make the Merriman et al system more robust.

12. Claims 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriman et al (US 2002/0099600), in view of Dunning et al (US 2003/0229537), in further view of Montague (USPN 6,954,731).

As per claim 53, neither Merriman et al nor Dunning et al disclose reports include a chart and a table. Montague discloses report generators that produce customized reports via a GUI presented graph display for business analysts to review or monitor, wherein various information could be presented including attribute values and actual versus predicted values (column 10, lines 52-67). Merriman et al, Dunning et al, and Montague are concerned with optimizing advertising campaigns, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a chart and a table in Merriman et al, as seen in Montague, as an effective means of communicating attribute values and detecting trends (see Montague, column 10, lines 55-59) in the Merriman et al system.

As per claim 54, neither Merriman et al nor Dunning et al disclose said chart is a bar chart where the length of the bars are determined by said reported relative importance of said attributes or said attribute values. Montague discloses report generators that produce customized reports via a GUI presented graph display for business analysts to review or monitor, wherein various information could be presented including attribute values and actual versus predicted values (column 10, lines 52-67). Further, it is old and well known to have various lengths and colors of bars in a graph and or chart. Merriman et al, Dunning et al, and Montague are concerned with optimizing advertising campaigns, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include bar chart where the length of the bars are determined by said reported relative importance in Merriman et al, as seen in Montague, as an effective means of communicating attribute values and detecting trends (see Montague, column 10, lines 55-59) in the Merriman et al system.

As per claim 55, neither Merriman et al nor Dunning et al disclose the colors of said bars are determined by assigning each attribute a color, and whenever an attribute or a value of said attribute appears on a chart, coloring said bar with said color. Montague discloses report generators that produce customized reports via a GUI presented graph display for business analysts to review or monitor, wherein various information could be presented including attribute values and actual versus predicted values (column 10, lines 52-67). Further, it is old and well known to have various lengths and colors of bars in a graph and or chart. Merriman et al, Dunning

et al, and Montague are concerned with optimizing advertising campaigns, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include colors of said bars are determined by assigning each attribute a color in Merriman et al, as seen in Montague, as an effective means of communicating attribute values and detecting trends (see Montague, column 10, lines 55-59) in the Merriman et al system.

As per claim 56, neither Merriman et al nor Dunning et al disclose the colors of said bars are determined by, when reporting on an attribute, using one color if the lower confidence bound of the best attribute value for said attribute is less than zero, and using a second color otherwise; and likewise when reporting on an attribute value, using one color if the lower confidence bound of said attribute value is less than zero, and using a second color otherwise. Montague discloses report generators that produce customized reports via a GUI presented graph display for business analysts to review or monitor, wherein various information could be presented including attribute values and actual versus predicted values (column 10, lines 52-67). Further, it is old and well known to have various lengths and colors of bars in a graph and or chart. Merriman et al, Dunning et al, and Montague are concerned with optimizing advertising campaigns, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include using one color if the lower confidence bound of the best attribute value for said attribute is less than zero, and using a second color otherwise in Merriman et al, as seen in Montague, as an effective means of communicating attribute values

and detecting trends (see Montague, column 10, lines 55-59) in the Merriman et al system.

As per claim 57, neither Merriman et al nor Dunning et al disclose the colors of said bars are determined by assigning each attribute a color and each attribute value a variant of the color assigned to its attribute, and whenever an attribute or an attribute value appears on a chart, coloring said bar with said color. Montague discloses report generators that produce customized reports via a GUI presented graph display for business analysts to review or monitor, wherein various information could be presented including attribute values and actual versus predicted values (column 10, lines 52-67). Further, it is old and well known to have various lengths and colors of bars in a graph and or chart. Merriman et al, Dunning et al, and Montague are concerned with optimizing advertising campaigns, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include assigning each attribute a color and each attribute value a variant of the color assigned to its attribute in Merriman et al, as seen in Montague, as an effective means of communicating attribute values and detecting trends (see Montague, column 10, lines 55-59) in the Merriman et al system.

Response to Arguments

13. In the Remarks, Applicant argues, with respect to claim 1, that Merriman et al does not appear to track or use ad attributes for any purpose and that the

multiattribute nomenclature of the present invention is neither disclosed nor implicit. Moreover, Applicant argues that Merriman et al does not disclose based on historical information, determining an importance of the attributes and the attribute values to the performance of the message alternative. In addition, and along the same lines, Applicant argues that any proposed combination of the references does not disclose or suggest basing an ad selection in a given stage of a multi-stage advertising campaign on a given attribute, let alone multiple attributes of a given advertisement. The Examiner respectfully disagrees. Merriman et al discloses context information, empirically measured data and initial suppositions about each ad are used to assign weights for different ads (¶¶ 0038-39), wherein factors of the advertisement, including season of ad, time of day and frequency of display, which are all assigned different weights (¶ 0039). As such, Merriman et al indeed discloses a method of multiattribute analysis and optimization, including tracking ad attributes (i.e., factors). In addition, Merriman et al disclose predictive model 10 processes database of historical results (¶ 0031), wherein considering all factors, the expected return for the offer is calculated (¶ 0042). As such, Merriman et al indeed discloses based on historical information, determining an importance of the attributes and the attribute values to the performance of the message alternative.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANDRE BOYCE
PATENT EXAMINER
A.U. 3623

adb
December 28, 2006